

REMARKS

Claims 1-4 and 6-13 are now pending in the application. Claim 1 has been amended and claims 5 and 14 have been canceled. Support for the foregoing amendments can be found throughout the specification, drawings, and claims as originally filed. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen et al. (U.S. Pub. No. 2004/0165592) in view of Silverman (U.S. Pat. No. 6,731,649). This rejection is respectfully traversed.

Applicant has amended claim 1 merely to include the limitations of the previously presented claim 5 and canceled claim 5.

Claim 1, as amended, recites:

A method for providing service with guaranteed Quality of Service (QoS) in IP access networks, each of the IP access networks comprises an edge router connected to a backbone network, and an access network end device connected to subscribers, comprising:

a. a service entity at network service control layer obtaining calling subscriber address and called subscriber address and QoS requirement for a service through analyzing a service request of the calling subscriber, then applying for resources to IP access networks corresponding to the calling subscriber and the called subscriber, respectively;

b. edge routers corresponding to the calling subscriber and the called subscriber judging whether enough resources can be provided for this service according to current resource condition, if so, executing step c, otherwise rejecting the service request of the calling subscriber; and

c. if there is an upward traffic stream sent from one of the calling subscriber and the called subscriber to the corresponding IP access network for this service, the corresponding edge router informing the corresponding access network end device of the QoS

requirement for the service, and the corresponding access network end device setting items of a stream classification table according to parameters for identifying the upward traffic stream contained in the QoS requirement; classifying the upward traffic stream sent from one of the calling subscriber and the called subscriber; and performing bandwidth limitation according to bandwidth parameters in the QoS requirement informed by the corresponding edge router for the upward traffic stream when matched with the items of the stream classification table, and processing the upward traffic stream when not matched as an upward traffic stream without guaranteed QoS;

if there is a downward traffic stream to be sent to one of the calling subscriber and the called subscriber from the corresponding IP access network for this service, the corresponding edge router setting priority in the corresponding IP access network for this service and forwarding the downward traffic stream to the corresponding subscriber according to the priority set by the corresponding edge router.

1. Feature (a.) of claim 1 requires that a service entity obtains the calling subscriber address and called subscriber address and QoS requirement and requests resources to IP access networks corresponding to the calling subscriber and the called subscriber.

The Examiner considers the connection server 25 in Chen as analogous to the service entity in claim 1, the feature of "routing packet, policy routing instruction includes source IP network address and destination IP network address paragraphs" in paragraphs 40-41 and 43 as analogous to "obtaining calling subscriber address and called subscriber address", and the feature of "connection server 25 determines bandwidth available in ATU-Rs and DLAMs, and connection server 25 ensures and grants bandwidth" in paragraphs 35 and 56 as analogous to "requesting resources to IP access network corresponding to the calling subscriber and the called subscriber."

Applicant submits that the Examiner's reasoning appears to be inconsistent. If the connection server 25 in Chen is equivalent to the service entity in amended claim 1

of the present invention as stated by the Examiner, then in order to teach claim 1 the connection server 25 would also need to request the resources to the IP access network. The Examiner, however, further states that the connection server 25 ensures and grants bandwidth (paragraph 56). In other words, the connection server 25 requests the resources, and also itself determines the resources.

2. In rejecting the previously presented claim 5, the Examiner asserts that "routing tables, routing entries" in paragraph 37, "type of service" in paragraph 43, and "PVC information include QoS parameters" in paragraph 90 disclose the features of "setting items of a stream classification table according to parameters for identifying the upward traffic stream contained in the QoS requirement." Those features are now recited in claim 1.

Applicant submits that the "routing tables, routing entries" and "PVC information include QoS parameters" shown in Chen are irrelevant to the stream classification table. Further, the "type of service" is an entry of the policy routing instruction, which is not the parameters for identifying the upward traffic stream contained in the QoS requirement. The routing table in Chen is used for routing packets rather than classifying the upward traffic stream. The QoS parameters are parameters about the PVC, but are irrelevant with the stream classification table. In contrast, claim 1 requires that the stream classification table is used for classifying the upward traffic stream. In other words, the feature of "setting items of a stream classification table according to parameters for identifying the upward traffic stream contained in the QoS requirement" of claim 1 can not be obtained by simply combining the "routing tables", "routing entries" and the "PVC information include QoS parameters."

3. In rejecting the previously presented claim 5, the Examiner considers the features of "signaling includes QoS requirement, SETUP message to ATM switch" in paragraphs 94 and 95 as analogous to the features of "classifying the upward traffic stream sent from one of the calling subscriber and the called subscriber." Those features are now recited in claim 1.

Claim 1 requires that the access network end device classifies the upward traffic stream, rather than the signaling message as shown in Chen. In Chen, the source subscriber 10 sends a signaling message carrying QoS parameter, rather than the upward traffic stream to the ATU-R. Further, paragraphs 94 and 95 at best appears to show the process of setting up the connection with the ATM network 16, rather than classifying the upward traffic stream.

Therefore, Chen does not teach or suggest the features of "classifying the upward traffic stream sent from one of the calling subscriber and the called subscriber" of claim 1.

4. In the section of Response to Arguments I the outstanding Office action, the Examiner considers that paragraphs 35, 39 and 106 of Chen disclose the features of "performing bandwidth limitation."

Applicant respectfully disagrees with the Examiner. Applicant submits that the connection server 25 performing the CAC is to judge whether enough bandwidth exists for setting up the connection, rather than limit the bandwidth of the upward traffic stream according to the bandwidth parameters in the QoS requirement. The former occurs in the process of setting up the QoS connection, while the latter is performed when transmitting the upward traffic stream. Paragraph 39 at best shows transmitting traffic packets over the QoS connection; paragraph 106 at best shows imposing policing, such

as billing on each connection. But none of those passages discloses performing bandwidth limitation on the upward traffic stream according to bandwidth parameters in the QoS requirement as required in claim 1.

Thus, Chen fails to teach or suggest "performing bandwidth limitation according to bandwidth parameters in the QoS requirement informed by the corresponding edge router for the upward traffic stream when matched with the items of the stream classification table."

5. In rejecting the previously presented claim 5, the Examiner asserts that paragraphs 39, 43, 97 and 106 disclose the features of "processing the upward traffic stream when not matched as an upward traffic stream without guaranteed QoS." Those features are now recited in claim 1.

Claim 1 requires that if the upward traffic stream matches with the stream classification table, the upward traffic stream is processed as an upward traffic stream without guaranteed QoS. In contrast, in paragraph 39 of Chen, the traffic packets are transmitted over the QoS connection (with guaranteed QoS), which is contrary to the above-mentioned feature in claim 1. As discussed above, in paragraph 97 of Chen, the ATM switch 15 also performs the CAC in the process of setting up the QoS connection, rather than transmitting the upward traffic stream. Although paragraph 106 of Chen mentions imposing policy on each connection based on the traffic descriptor, Chen does not disclose what policy is imposed on the connection.

Thus, Chen does not teach or suggest "processing the upward traffic stream when not matched as an upward traffic stream without guaranteed QoS."

In addition, in Chen, in order to guarantee the QoS of the service between the subscriber 10 and peer device 40, the QoS connection, such as the SVC and PVC is

established between the two subscribers, and the application packets are transmitted through the QoS connection. In other words, Chen appears to rely on SVC or PVC to guarantee the QoS of the service.

Further, Silverman fails to cure the deficiencies of claim 1. Thus, Chen and Silverman neither disclose nor suggest the subject matter of claim 1. Applicant submits that claim 1 and its dependent claims 2-4 and 6-13 define over the art cited by the Examiner.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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